United States Department of Agriculture
Natural Resources Conservation Service

Ecological Site Description

Site Type: Rangeland

Site Name: Saline Subirrigated (SS), 15-19" P.Z., Foothills and Mountains West

Site ID: R043BY242WY

Major Land Resource Area: 43B-Central Rocky Mountains

Physiographic Features

This site occurs on nearly level land along perennial or intermittent streams, and near seeps, sloughs, or springs. It is also found on broad, low lake terraces, lake plains, on alluvial bottoms, and poorly-drained bottom lands adjacent to stream channels. These areas receive additional run-in water from higher sites and from a fluctuating water table, well within the root zone.

Landform: alluvial fans, drainage ways & stream terraces **Aspect:** N/A

	Minimum	Maximum	
Elevation (feet):	5600	8300	
Slope (percent):	0	10	(mostly <3%)
Water Table Depth (inches):	0	306	
Flooding:			
Frequency:	occasional	frequent	
Duration:	very brief	brief	
Ponding:			
Depth (inches):	0	0	
Frequency:	none	none	
Duration:	none	none	
Runoff Class:	negligible	high	

Climatic Features

Annual precipitation ranges from 15-19 inches per year. Wide fluctuations may occur in yearly precipitation and result in more dry years than those with more than normal precipitation. Temperatures show a wide range between summer and winter and between daily maximums and minimums. This is predominantly due to the high elevation and dry air, which permits rapid incoming and outgoing radiation. Cold air outbreaks in winter move rapidly from northwest to southeast and account for extreme minimum temperatures. Extreme storms may occur during the winter, but most severely affect ranch operations during late winter and spring.

Prevailing winds are from the southwest, and strong winds are less frequent than over other areas of Wyoming. Occasional storms, however, can bring brief periods of high winds with gusts exceeding 50 mph.

Growth of native cool season plants begins about May 15 and continues to about August 15.

The following information is from the "Jackson" climate station:

	Minimum	Maximum	5 yrs. out of 10 between
Frost-free period (days):	12	60	July 9 – August 12
Freeze-free period (days):	42	100	June 20 – August 26

Annual Precipitation (inches): <11.98 >19.69 (2 years in 10)

Mean annual precipitation: 17.00 inches

Mean annual air temperature: 38.9°F (23.3°F Avg. Min. to 54.5°F Avg. Max.)

For detailed information visit the Natural Resources Conservation Service National Water and Climate Center at http://www.wcc.nrcs.usda.gov/cgibin/state.pl?state=wy website. Other climate stations representative of this precipitation zone include "Afton" in Lincoln County; and "Darwin Ranch" in Teton County.

Influencing Water Features

Wetland Description:	System	Subsystem	Class	Sub-class
None	None	None	None	None

Stream Type: C (Rosgen)

Representative Soil Features

Soils of this site are mostly deep, somewhat poorly drained and affected by wetness and salt. Textures are range from loamy fine sand to clay, with loam to clay being most common. Salt crusts are commonly found on mounds during dry periods. The water table fluctuates during the growing season and is generally between 20 to 40 inches most years. The soil and soil water have enough salinity to restrict plant establishment and growth. Mottling or gleying may occur within 20 to 40 inches of the surface.

Major Soil Series correlated to this site include: Bear Lake Series

Parent Material Kind: alluvium
Parent Material Origin: mixed
Surface Texture: loam, silt loam, silty clay loam
Surface Texture Modifier: none
Subsurface Texture Group: loam, sandy loam, clay loam, loamy sand
Surface Fragments ≤ 3" (% Cover): 0-10
Surface Fragments > 3" (%Cover): 0
Subsurface Fragments ≤ 3" (% Volume): 0-30
Subsurface Fragments > 3" (% Volume): 0-10

	Minimum	Maximum
Drainage Class:	somewhat poorly	moderately well
Permeability Class:	moderately slow	moderate
Depth (inches):	20	>60
Electrical Conductivity (mmhos/cm) ≤20":	8	>16
Sodium Absorption Ratio ≤20":	0	10
Soil Reaction (1:1 Water) ≤20":	7.4	9.0
Soil Reaction (0.1M CaCl2) ≤20":	NA	NA
Available Water Capacity (inches) ≤30":	3	6
Calcium Carbonate Equivalent (percent) ≤20":	10	30

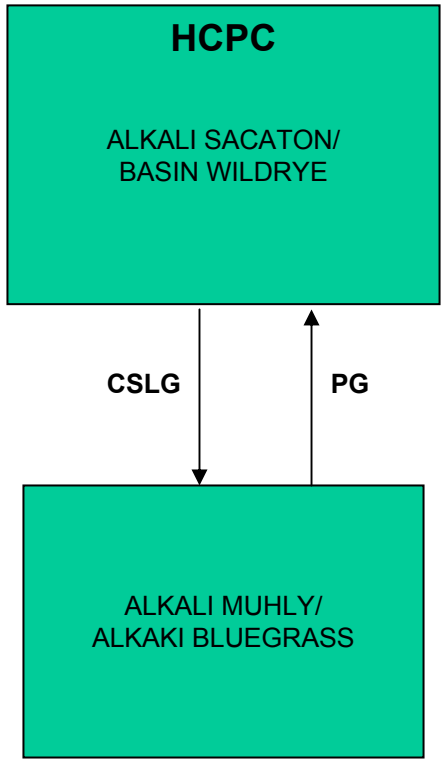
Plant Communities

Ecological Dynamics of the Site:

As this site deteriorates from improper grazing management, species such as inland saltgrass, alkali bluegrass, and alkali muhly increase. Grasses such as alkali sacaton, basin wildrye, and Nuttall's alkaligrass will decrease in frequency and production.

The Historic Climax Plant Community (description follows the plant community diagram) has been determined by study of rangeland relic areas, or areas protected from excessive disturbance. Trends in plant communities going from heavily grazed areas to lightly grazed areas, seasonal use pastures, and historical accounts have also been used.

The following is a State and Transition Model Diagram that illustrates the common plant communities (states) that can occur on the site and the transitions between these communities. The ecological processes will be discussed in more detail in the plant community narratives following the diagram.



BMA – Brush Management (all methods)
BMC – Brush Management (chemical)
BMF – Brush Management (fire)
BMM – Brush Management (mechanical)
CSP – Chemical Seedbed Preparation
CSLG – Continuous Season-long Grazing
DR – Drainage
CSG – Continuous Spring Grazing
HB – Heavy Browse
HCSLG – Heavy Continuous Season-long Grazing
HI – Heavy Inundation
LPG – Long-term Prescribed Grazing
MT – Mechanical Treatment (chiseling, ripping, pitting)
NF – No Fire
NS – Natural Succession
NWC – Noxious Weed Control
NWI – Noxious Weed Invasion
NU – Nonuse
P&C – Plow & Crop (including hay)
PG – Prescribed Grazing
RPT – Re-plant Trees
RS – Re-seed
SGD – Severe Ground Disturbance
SHC – Severe Hoof Compaction
WD – Wildlife Damage (Beaver)
WF - Wildfire

Plant Community Composition and Group Annual Production

Reference Plant Community (HCPC)

COMMON NAME/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Annual Production (Normal Year) Total: 3800		
			Group	lbs./acre	% Comp.
GRASSES AND GRASS-LIKES					
GRASSES/GRASSLIKES					
alkali sacaton	Sporobolus airoides	SPAI	1	**1520 - 1900**	40 50
basin wildrye	Leymus cinereus	LECI4	2	190 - 380	5 - 10
Nuttall's alkaligrass	Pucinellia nuttalliana	PUNU2	3	190 - 380	5 - 10
Alkali bluegrass	Poa juncifolia (syn. to P. secunda)	POJU (POSE)	4	190 - 380	5 - 10
inland saltgrass	Distichlis spicata	DISP	5	38 - 380	1 - 10
MISC. GRASSES/GRASSLIKES			**6**	**190 - 570**	**5 - 15**
alkali muhly	Muhlenbergia asperifolia	MUAS	6	0 - 190	0 - 5
Bearded wheatgrass	Elymus scribneri	ELSC4	6	0 - 190	0 - 5
bentgrass	Agrostis spp.	AGROS2	6	0 - 190	0 - 5
inland sedge	Carex interior	CAIN11	6	0 - 190	0 - 5
Little barley	Hordeum pusillum	HOPU	6	0 - 190	0 - 5
mat muhly	Muhlenbergia richardsonis	MURI	6	0 - 190	0 - 5
Nebraska sedge	Carex nebrascensis	CANE2	6	0 - 190	0 - 5
tufted hairgrass	Deschampsia caespitosa	DECA18	6	0 - 190	0 - 5
rhizomatous wheatgrass	Pascopyrum smithii	PASM	6	0 - 190	0 - 5
Rush	Juncus spp.	JUNCU	6	0 - 190	0 - 5
Sedge	Carex spp.	CAREX	6	0 - 190	0 - 5
Shortawn foxtail	Alopecurus aequalis	ALAE	6	0 - 190	0 - 5
other perennial grasses (native)		2GP	6	0 - 190	0 - 5
FORBS			**7**	**38 - 380**	**1 - 10**
arrowgrass	Triglochin spp.	TRIGL	7	0 - 190	0 - 5
Cinquefoil (herbaceous)	Potentilla spp.	POTEN	7	0 - 190	0 - 5
Elk thistle	Cirsium foliosum	CIFO	7	0 - 190	0 - 5
Gentian	Gentiana spp.	GENTI	7	0 - 190	0 - 5
milkvetch	Astragalus spp.	ASTRA	7	0 - 190	0 - 5
Mountain dandelion	Agoseris spp.	AGOSE	7	0 - 190	0 - 5
Owl's-clover	Orthocarpus spp.	ORTHO	7	0 - 190	0 - 5
other perennial forbs (native)		2FP	7	0 - 190	0 - 5
TREES/SHRUBS					
greasewood	Sarcobatus vermiculatus	SAVE4	8	190 - 380	5 - 10
rubber rabbitbrush	Ericameria nauseosa	ERNA10	9	0 - 190	0 - 5
short-fruit willow	Salix brachycarpa	SABR	10	0 - 190	0 - 5
Shrubby cinquefoil	Dasiphora floribunda	DAFL3	11	0 - 190	0 - 5

This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic factors.

Plant Community Narratives

Following are the narratives for each of the described plant communities. These plant communities may not represent every possibility, but they probably are the most prevalent and repeatable plant communities. The plant composition tables shown above have been developed from the best available knowledge at the time of this revision. As more data is collected, some of these plant communities may be revised or removed, and new ones may be added. None of these plant communities should necessarily be thought of as "Desired Plant Communities". According to the USDA NRCS National Range and Pasture Handbook, Desired Plant Communities (DPC's) will be determined by the decision-makers and will meet minimum quality criteria established by the NRCS. The main purpose for including any description of a plant community here is to capture the current knowledge and experience at the time of this revision.

Alkali Sacaton/Basin Wildrye Plant Community (HCPC)

The interpretive plant community for this site is the Historic Climax Plant Community. This state evolved with grazing by large herbivores and is suited for grazing by domestic livestock. Potential vegetation is estimated at 75% grasses or grass-like plants, 10% forbs and 15% woody plants. Saline tolerant species dominate the site. The major grasses include alkali sacaton, basin wildrye, Nuttall's alkaligrass, alkali bluegrass, and inland saltgrass. Common woody plants are greasewood and rubber rabbitbrush.

A typical plant composition for this state consists of Alkali sacaton 40-50%, Basin wildrye 5-10%, Nuttall's alkaligrass 5-10%, alkali bluegrass 5-10%, up to 10% inland saltgrass, perennial forbs 1-10%, greasewood 5-10%, and up to 5% rubber rabbitbrush. Ground cover, by ocular estimate, varies from 70-80%.

The total annual production (air-dry weight) of this state is about 3800 pounds per acre, but it can range from about 3000 lbs./acre in unfavorable years to about 4500 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:
Growth curve number: WY0203
Growth curve name: 15-19W, FREE WATER SITES
Growth curve description: WL, SB, SS FREE WATER SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	10	40	30	15	5	0	0	0

(Monthly percentages of total annual growth)

The state is stable and well adapted to the Central Rocky Mountains climatic conditions. It is a critical state providing water and habitat for the surrounding area. It is resistant to drought due to a dependable water supply. This is a sustainable plant community (site/soil stability, watershed function, and biologic integrity).

Transitions or pathways leading to other plant communities are as follows:

- Continuous Season-long Grazing will convert this plant community to the *Alkali Muhly/Alkali Bluegrass State.*

Alkali Muhly/Alkali Bluegrass Plant Community

This plant community evolved under continuous grazing by domestic livestock. Saline tolerant grasses make up the majority of the understory. Dominant grasses include alkali muhly and alkali bluegrass.

The total annual production (air-dry weight) of this state is about 2800 pounds per acre, but it can range from about 2000 lbs./acre in unfavorable years to about 3500 lbs./acre in above average years.

The following is the growth curve of this plant community expected during a normal year:
Growth curve number: WY0203
Growth curve name: 15-19W, FREE WATER SITES
Growth curve description: WL, SB, SS FREE WATER SITES

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	0	0	0	10	40	30	15	5	0	0	0

(Monthly percentages of total annual growth)

The state is stable and protected from excessive erosion. The biotic integrity of this plant community is at risk due to decreased species diversity. The watershed is usually functioning.

Transitional pathways leading to other plant communities are as follows:

- Prescribed Grazing will result in a plant community very similar to the *Historic Climax Plant Community (Alkali Sacaton/Basin Wildrye State).*

Ecological Site Interpretations

Animal Community – Wildlife Interpretations

Alkali Sacaton/Basin Wildrye Plant Community (HCPC): This plant community is very important for many of the wildlife species in the area. With the presence of water at or near the soil surface, over 80% of all wildlife will use this site to fulfill some part of their habitat needs. It provides forage for mule deer and antelope. It provides nesting habitat for shorebirds, songbirds, and waterfowl as well as ground nesting birds such as harriers. The lush herbaceous material produces insects for sage grouse brood rearing and foraging. Dense ground cover provides escape cover, forage, and breeding areas for small mammals which draw predators such as raptors, red fox and coyote. Other birds that would frequent this plant community include red-wing blackbirds, sandhill cranes, western meadowlarks, and neo-tropical migrants.

Alkali Muhly/Alkali Bluegrass Plant Community: This plant community may be beneficial for the same wildlife that would use the Historic Climax Plant Community. However, the plant community composition is less diverse, and thus, less apt to meet the seasonal needs of these animals.

Animal Preferences (Quarterly - 1,2,3,4) for commonly occuring plants in MLRA 43B, 15-19W

COMMON NAME/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Cattle	Sheep	Horses	Mule Deer	Antelope	Elk	Moose
GRASSES/GRASSLIKES									
Alkali bluegrass	Poa juncifolia (syn. to P. secunda)	POJU	DDDD	PPPP	DDDD	PPPP	PPPP	DDDD	DDDD
Alkali muhly	Muhlenbergia asperifolia	MUAS	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Alkali sacaton	Sporobolus airoides	SPAI	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Alpine timothy	Phleum alpinum	PHAL2	PPPP	PPPP	PPPP	DDDD	UUUU	PPPP	DDDD
American mannagrass	Glyceria grandis	GLGR	DDDD	UUUU	DDDD	UUUU	UUUU	DDDD	DDDD
Baltic rush	Juncus balticus	JUBA	DDDD	UUUU	DDDD	UUUU	UUUU	DDDD	UUUU
Basin wildrye	Leymus cinereus	LECI4	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP	DDDD
Beaked sedge	Carex rostrata	CARO6	DDUD	UUUU	DDUD	UUUU	UUUU	DDUD	DDUD
Bearded wheatgrass	Elymus trachycaulus ssp. subsecundus	ELTRS	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Bentgrass	Agrostis spp.	AGROS2	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Big bluegrass	Poa ampla (syn. to Poa secunda)	POAM	PPPP	DDDD	PPPP	PPPP	PPPP	PPPP	PPPP
Blue wildrye	Elymus glaucus	ELGL	PPPP	DDDD	PPPP	DDDD	UUUU	PPPP	DDDD
Bluebunch wheatgrass	Pseudoroegneria spicata	PSSP6	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP	DDDD
Bluejoint reedgrass	Calamagrostis canadensis	CACA4	PPPP	DDDD	PPPP	UUUU	UUUU	PPPP	DDDD
Bottlebrush squirreltail	Elymus elymoides	ELELE	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU	NNNN
Bulrush	Scirpus spp.	SCIRP	DDDD	UUUU	UUUU	UUUU	UUUU	DDDD	DDDD
California oatgrass	Danthonia californica	DACA3	PPPP	DDDD	DDDD	DDDD	DDDD	PPPP	DDDD
Canby bluegrass	Poa canbyi (syn. to Poa secunda)	POCA	PPPP	DPDD	DPDD	DPDD	DPDD	PPPP	DPPD
Cattail	Typha spp.	TYPHA	DUUD	DUUD	DUUD	DUUD	DUUD	DUUD	DUUD
Columbia needlegrass	Achnatherum nelsonii	ACNE9	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Cusick bluegrass	Poa cusickii	POCU3	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Dunehead sedge	Carex phaeocephala	CAPH2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Fowl bluegrass	Poa palustris	POPA2	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Green needlegrass	Nassella viridula	NAVI4	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Idaho fescue	Festuca idahoensis	FEID	DDPD	DDPD	DDPD	DDDD	DDDD	DDPD	DDDD
Indian ricegrass	Achnatherum hymenoides	ACHY	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Inland saltgrass	Distichlis spicata	DISP	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Inland sedge	Carex interior	CAIN11	DDDD	DDDD	DDDD	UUUU	UUUU	DDDD	DDDD
Letterman needlegrass	Achnatherum lettermanii	ACLE9	UPUU	UDUU	UPUU	DDDD	DDDD	DDDD	DDDD
Little barley	Hordeum pusillum	HOPU	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU
Mat muhly	Muhlenbergia richardsonis	MURI	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Montana wheatgrass	Elymus albicans	ELAL7	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Mountain brome	Bromus marginatus	BRMA4	PPPP	PPPP	DDDD	DDDD	NNNN	PPPP	DDDD
Mountain muhly	Muhlenbergia montana	MUMO	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Mutton bluegrass	Poa fendleriana	POFE	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Nebraska sedge	Carex nebrascensis	CANE2	PPPP	PPPP	PPPP	PPPP	DDDD	PPPP	DDDD
Needleleaf sedge	Carex duriuscula	CADU6	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Nodding brome	Bromus porteri	BRPO2	PPPP	PPPP	DDDD	DDDD	UUUU	PPPP	DDDD
Northern reedgrass	Calamagrostis stricta ssp. inexpansa	CASTI3	PPPP	DDDD	PPPP	DDDD	UUUU	PPPP	DDDD
Nuttall's alkaligrass	Puccinellia nuttalliana	PUNU2	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
One-spike oatgrass	Danthonia unispicata	DAUN	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	DDDD
Oniongrass	Melica bulbosa	MEBU	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Prairie junegrass	Koeleria macrantha	KOMA	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Pumpelly's brome	Bromus inermis ssp. pumpellianus	BRINP	PPPP	PPPP	DDDD	DDDD	UUUU	PPPP	DDDD
Redtop	Agrostis stolonifera	AGST2	UPDU	UPDU	UPDU	UPDU	UPDU	UPDU	UPDU
Reed canarygrass	Phalaris arundinacea	PHAR3	UDDU	UDDU	UDDU	UDDU	UDDU	UDDU	UDDU
Richardson's needlegrass	Achnatherum richardsonii	ACRI8	PPPP	PPPP	DDDD	DDDD	DDDD	PPPP	DDDD
Sandberg bluegrass	Poa secunda	POSE	UDDU	UDDU	UDDU	UDDU	UDDU	UDDU	UDDU
Shortawn foxtail	Alopecurus aequalis	ALAE	DDDU	DDDU	DDDU	DDDU	DDDU	DDDU	DDDU
Slender wheatgrass	Elymus trachycaulus	ELTR7	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Spikefescue	Leucopoa kingii	LEKI2	PPPP	DDDD	PPPP	PPPP	DDDD	PPPP	DDDD
Spikerush	Eleocharis spp.	ELEOC	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Spike trisetum	Trisetum spicatum	TRSP2	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Sun sedge	Carex inops ssp. heliophila	CAINH2	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP	DDDD
Tall mannagrass	Glyceria elata (syn. G. striata)	GLEL	DDDD	UUUU	DDDD	UUUU	UUUU	DDDD	DDDD
Thickspike wheatgrass	Elymus lanceolatus ssp. lanceolatus	ELMA7	DPDD	DDDD	DDDD	DDDD	DDDD	PDDP	DDDD
Threadleaf sedge	Carex filifolia	CAFI	DDDD	DDDD	DDDD	DDDD	DDDD	PDDP	DDDD
Timber oatgrass	Danthonia intermedia	DAIN	DDDD	DDDD	DDDD	UUUU	UUUU	DDDD	DDDD
Tufted hairgrass	Deschampsia caespitosa	DECA18	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP	DDDD
Water sedge	Carex aquatilis ssp. aquatilis	CAAQA	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU
Western needlegrass	Achnatherum occidentale	ACOC3	PPPP	PPPP	PPPP	DDDD	DDDD	PPPP	DDDD
Western wheatgrass	Pascopyrum smithii	PASM	DPDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
FORBS									
American licorice	Glycyrrhiza lepidota	GLLE3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
American bistort	Polygonum bistortoides	POB16	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
American vetch	Vicia americana	VIAM	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	DDDD
Arnica	Arnica spp.	ARNIC	UUUU	UUUU	UUUU	DDDD	UUUU	UUUU	UUUU
Arrowgrass	Triglochin spp.	TRIGL	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Asters	Eucephalus & Symphyotrichum spp.	EUCEP2/SYMPH4	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Avens (prairie smoke)	Geum spp.	GEUM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Balsamroot	Balsamorhiza spp.	BALSA	DPDD	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Bedstraw	Galium spp.	GALIU	UUUU	DDDD	UUUU	DDDD	DDDD	DDDD	UUUU
Biscuitroot	Lomatium spp.	LOMAT	DDDD	DDDD	UUUU	DDDD	DDDD	DDDD	DDDD
Bitterroot	Lewisia rediviva ssp. rediviva	LERER	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Bluebell	Mertensia spp.	MERTE	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Blue-eyed grass	Sisyrinchium spp.	SISYR	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Buckwheat	Eriogonum spp.	ERIOG	UUUU	DDDD	UUUU	UUUU	UUUU	UUUU	UUUU
Buttercup	Ranunculus spp.	RANUN	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Cinquefoil (herbaceous)	Potentilla spp.	POTEN	UUUU	UUUU	UUUU	UUDU	UUUU	UUUU	UUUU
Clover	Trifolium spp.	TRIFO	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Columbine	Aquilegia spp.	AQUIL	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Cow parsnip	Heralcleum maximum	HERAC	PPPP	PPPP	PPPP	PPPP	PPPP	DDDD	NNNN
Daisy	Townsendia spp.	TOWNS	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Deathcamas	Zigadenus venenosus	ZIVE	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Elephanthead lousewort	Pedicularis groenlandica	PEGR2	UUUU	DDDD	UUUU	DDDD	UUUU	UUUU	DDDD
Elk thistle	Cirsium foliosum	CIFO	UUDU	UUUU	UDPU	UDDU	UUUU	UDPU	UUUU
Evening-primrose	Oenothera spp.	OENOT	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Fireweed	Chamerion angustifolium	CHAN9	PPPP	DDDD	UUUU	PPPP	DDDD	PPPP	PPPP
Flax	Linum spp.	LINUM	UPDU	UPDU	UPDU	UPDU	UPDU	UPDU	UPDU
Fleabane	Erigeron spp.	ERIGE2	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Gentian	Gentiana spp.	GENTI	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Geranium	Geranium spp.	GERAN	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Gilia	Gilia spp.	GILIA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Goldenaster	Heterotheca spp.	HETER8	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Goldenpea	Thermopsis spp.	THERM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Goldenrod	Solidago spp.	SOLID	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Golden smoke	Corydalis aurea	COAU2	TTUU	TTUU	TTUU	TTUU	TTUU	TTUU	TTUU
Goldenweed, stemless	Stenotus acaulis ssp. acaulis	STACA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Green gentian	Frasera speciosa	FRSP	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Groundsel	Packera spp.	PACKE	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Harebell (bellflower)	Campanula spp.	CAMPA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Hawksbeard	Crepis spp.	CREPI	UUUU	PPPP	UUUU	DDDD	DDDD	UUUU	DDDD
Hawkweed	Hieracium spp.	HIERA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Horsemint	Agastache spp.	AGAST	DDDD	DDDD	UUUU	DDDD	DDDD	DDDD	DDDD
Horsetail (scouring rush)	Equisetum spp.	EQUIS	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Iris (Rocky Mountain)	Iris missouriensis	IRMI	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU

Animal Preferences (Quarterly - 1,2,3,4) for commonly occuring plants in MLRA 43B, 15-19W

COMMON NAME/GROUP NAME	SCIENTIFIC NAME	SYMBOL	*Cattle*	*Sheep*	*Horses*	*Mule Deer*	*Antelope*	*Elk*	*Moose*
Larkspur (poisonous in spring before flowering)	Delphinium spp.	DELPH	DTDD	DTDD	DTDD	DTDD	DTDD	DTDD	DTDD
Little sunflower	Helianthus pumilus	HEPU3	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Locoweed	Oxytropis spp.	OXYTR	TTUU	TTUU	TTUU	TTUU	TTUU	TTUU	TTUU
Lupine (may be poisonous after seedpots mature)	Lupinus spp.	LUPIN	DDTT	DDTT	DDTT	DDTT	DDTT	DDTT	DDTT
Meadow-rue	Thalictrum occidentale	THOC	DDDD	PPPP	DDDD	PPPP	PPPP	DDDD	PPPP
Milkvetch	Astragalus spp.	ASTRA	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Minerscandle	Cryptantha spp.	CRYPT	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Mint (wild)	Mentha arvensis	MEAR4	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Monkeyflower	Mimulus spp.	MIMUL	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU
Monkshood	Aconitum spp.	ACONI	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Mountain dandelion	Agoseris spp.	AGOSE	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	DDDD
Mule-ears	Wyethis amplexicaulis	WYAM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Mustard	Draba spp.	DRABA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Nailwort	Paronychia spp.	PARON	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Onion (wild)	Allium spp.	ALLI4	DPDD	PPPP	DPDD	DPDD	PPPP	DPDD	DPDD
Oregon grape	Mahonia repens	MARE11	UUUU	DDDD	UUUU	PPPP	DDDD	DDDD	DDDD
Owl's-clover	Orthocarpus spp.	ORTHO	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Paintbrush	Castilleja spp.	CAST	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Peavine	Lathyrus spp.	LATHY	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Penstemon	Penstemon spp.	PENST	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Phacelia	Phacelia spp.	PHACE	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Phlox	Phlox spp.	PHLOX	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Plantain	Plantago spp.	PLANT	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Primrose	Primula spp.	PRIMU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Pussytoes	Antennaria spp.	ANTEN	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Ragwort (groundsel)	Senecio spp.	SENEC	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Sandwort	Arenaria spp.	ARENA	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Shooting star	Dodecatheon spp.	DODEC	DDDD	DDDD	UUUU	DDDD	UUUU	UUUU	UUUU
Starwort	Stellaria spp.	STELL	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Sego lily	Calochortus nuttallii	CANU3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Smartweed (knotweed)	Polygonum spp.	POLYG4	UUUU	UUUU	UUUU	DDDD	UUUU	UUUU	UUUU
Sneezeweed, orange (rubberweed)	Hymenoxys spp.	HYMEN7	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Springbeauty	Claytonia spp.	CLAYT	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU	UDUU
Stinging nettle	Urtica dioica	URDI	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Stonecrop	Sedum spp.	SEDUM	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Stoneseed	Lithospermum spp.	LITHO3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Sunflower	Helianthus spp.	HELIA3	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP	PPPP
Sweetroot	Osmorhiza spp.	OSMOR	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Toadflax	Comandra umbellata	COUMP	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Valerian (tobacco root)	Valeriana spp.	VALER	DDDD	PPPP	DDDD	DDDD	DDDD	DDDD	DDDD
Violet	Viola spp.	VIOLA	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Water hemlock (spotted)	Cicuta maculata var. angustifolia	CIMAA	TTUU	TTUU	TTUU	TTUU	TTUU	TTUU	TTUU
Waterleaf	Hydrophyllum spp.	HYDRO4	DDDD	DDDD	DDDD	PPPP	DDDD	DDDD	DDDD
Western coneflower	Rudbeckia occidentalis	RUOC2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Wild strawberry (false strawberry)	Fragaria vesca	FRVE	DDDD	PPPP	DDDD	PPPP	PPPP	DDDD	DDDD
Yarrow (common & western)	Achillea millefolium	ACMI2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Yellowbell	Fritillaria pudica	FRPU2	UUUU	DUUU	UUUU	DUUU	UUUU	DUUU	UUUU
Yellow sneezeweed	Helenium autumnale	HEAU	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
TREES, SHRUBS & HALF-SHRUBS									
Alpine laurel (bog kalmia)	Kalmia microphylla	KAMI	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT	TTTT
Antelope bitterbrush	Purshia tridentata	PUTR2	PPPP	PPPP	DDDD	PPPP	PPPP	PPPP	PPPP
Aspen	Populus tremuloides	POTR5	DDDD	DDDD	DDDD	PPPP	DDDD	PPPP	PPPP
Basin big sagebrush	Artemesia tridentata ssp. tridentata	ARTRT	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Big sagebrush	Artemisia tridentata	ARTR2	DUUD	DDDD	UUUU	PPPP	PPPP	DDDD	DDDD
Black sagebrush	Artemesia nova	ARNO4	DDDD	PPPP	UUUU	DDDD	DDDD	DDDD	DDDD
Chokecherry (toxic in large amounts)	Prunus virginiana	PRVI	DTTD	DTTD	DDDD	PPPP	UUUU	DDDD	PPPP
Currant	Ribes spp.	RIBES	DDDD	DDDD	DDDD	PPPP	UUUU	DDDD	DDDD
Dogwood	Cornus spp.	CORNU	DDDD	DPDD	DDDD	DPDD	DDDD	DPDD	DPDD
Early (alkali) sage	Artemisia arbuscula ssp. longiloba	ARARL	UUUU	DUDD	UUUU	PUPP	PDDP	DUUD	UUUU
Elderberry	Sambucus spp.	SAMBU	DDDD	DDDD	UUUU	PPPP	UUUU	DDDD	DDDD
Fringed sagewort	Artemisia frigida	ARFR4	UUUU	UUUU	UUUU	UUUU	DDDD	UUUU	UUUU
Goldenweed, shrubby	Ericameria suffruticosus	ERSU13	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Greasewood (toxic in large amounts)	Sarcobatus vermiculatus	SAVE4	DUUD	DDDD	UUUU	DDDD	DDDD	DUUD	UUUU
Green (low) rabbitbrush	Chrysothamnus viscidiflorus	CHVI8	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Juniper, common	Juniperus communis var. depressa	JUCOD	UUUU	UUUU	UUUU	DUUD	UUUU	UUUU	UUUU
Juniper, Rocky Mountain	Juniperus scopulorum	JUSC2	UUUU	DUDD	UUUU	DUDD	UUUU	UUUU	UUUU
Limber pine	Pinus flexilis	PIFL2	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN	NNNN
Low sagebrush	Artemisia arbuscula ssp. arbuscula	ARAR8	DUUD	DDDD	UUUU	DDDD	DDDD	DDDD	DDDD
Mountain big sagebrush	Artemesia tridentata ssp. vaseyana	ARTRV	UUUU	DDDD	UUUU	DDDD	DDDD	UUUU	UUUU
Mountain mahogany	Cercocarpus spp.	CERCO	PPPP	PPPP	DDDD	PPPP	UUUU	PPPP	PPPP
Raspberry	Rubus idaeus	RUID	UUUU	UUUU	UUUU	DDDD	UUUU	UUUU	DDDD
Rubber rabbitbrush	Ericameria nauseosa	ERNA10	UUUU	PPPP	UUUU	DDDD	PPPP	DDDD	DDDD
Serviceberry	Amelanchier alnifolia	AMAL2	DDDD	PPPP	UUUU	PPPP	DDDD	DDDD	DDDD
Shrubby cinquefoil	Dasiphora floribunda	DAFL3	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Silverberry	Elaeagnus commutata	ELCO	DDUU	DDDD	UUUU	DDUU	DDDD	DDUU	PPPP
Silver sagebrush	Artemisia cana	ARCA13	UUUU	DDDD	UUUU	PPPP	PPPP	DDDD	DDDD
Snowberry (western)	Symphoricarpus occidentalis	SYOC	UUUU	UUUU	UUUU	DDDD	UUUU	UUUU	UUUU
Snowbrush ceanothus	Ceanothus velutinus	CEVE	UUUU	DDDD	UUUU	DDDD	UUUU	DDDD	UUUU
Spiked big sagebrush	Artemesia tridentata ssp. spiciformis	ARTRS2	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU
Thimbleberry	Rubus parviflorus	RUPA	UUUU	DDDD	UUUU	UDUU	UUUU	UDUU	DPDD
Three-tip sagebrush	Artemisia tripartitia	ARTR4	UUUU	DDDD	UUUU	UUUU	DDDD	UUUU	DDDD
True mountainmahogany	Cercocarpus montanus	CEMO2	PPPP	PPPP	DDDD	PPPP	UUUU	PPPP	PPPP
Water birch	Betula occidentalis	BEOC2	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD	DDDD
Wild rose	Rosa woodsii var. woodsii	ROWOW	DDDD	DDDD	UUUU	DDDD	DDDD	DDDD	DDDD
Willow, Bebbs	Salix bebbiana	SABE2	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, Blueberry	Salix myrtillifolia	SAMY	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, Booths	Salix boothii	SABO2	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, coyote (sandbar)	Salix exigua	SAEX	PPPP	PPPP	DDDD	PPPP	UUUU	PPPP	PPPP
Willow, Drummonds	Salix drummondiana	SADR	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, grayleaf	Salix glauca	SAGL	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, Geyers	Salix geyeriana	SAGE2	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, Lemmons	Salix lemmonii	SALE	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, peachleaf	Salix amygdaloides	SAAM2	PPPP	PPPP	DDDD	PPPP	UUUU	PPPP	PPPP
Willow, planeleaf (diamondleaf)	Salix planifolia	SAPL2	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, pussy	Salix discolor	SADI	DDDD	DDDD	DDDD	DDDD	UUUU	DDDD	DDDD
Willow, Scoulers	Salix scouleriana	SASC	PPPP	PPPP	DDDD	PPPP	DDDD	PPPP	PPPP
Willow, short-fruit (barrenground)	Salix brachycarpa	SABR	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, tweedy	Salix tweedyi	SATW	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, whiplash	Salix lucida ssp. Caudata	SALUC	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, interior	Salix interior	SAIN3	DDDD	PPPP	DDDD	PPPP	DDDD	DDDD	PPPP
Willow, wolf	Salix wolfii	SAWO	UUUU	UUUU	UUUU	UUUU	UUUU	UUUU	DDDD
willow, yellow	Salix lutea	SALU2	PPPP	PPPP	DDDD	PPPP	UUUU	PPPP	PPPP
Wyoming big sagebrush	Artemesia tridentata ssp. wyomingensis	ARTRW8	UUUU	DDDD	UUUU	PPPP	PPPP	UUUU	UUUU

N = not used; U = undesirable; D = desirable; P = preferred; T = toxic

Animal Community – Grazing Interpretations

The following table lists suggested stocking rates for cattle under continuous season-long grazing under normal growing conditions. These are conservative estimates that should be used only as guidelines in the initial stages of the conservation planning process. Often, the current plant composition does not entirely match any particular plant community (as described in this ecological site description). Because of this, a field visit is recommended, in all cases, to document plant composition and production. More precise carrying capacity estimates should eventually be calculated using this information along with animal preference data, particularly when grazers other than cattle are involved. Under more intensive grazing management, improved harvest efficiencies can result in an increased carrying capacity. If distribution problems occur, stocking rates must be reduced to maintain plant health and vigor.

Plant Community	Production (lb./ac)	Carrying Capacity* (AUM/ac)
Alkali Sacaton/Basin Wildrye (HCPC)	3000-4500	1.2
Alkali Muhly/Alkali Bluegrass	2000-3500	.9

* - Continuous, season-long grazing by cattle under average growing conditions.

Grazing by domestic livestock is one of the major income-producing industries in the area. Rangeland in this area may provide yearlong forage for cattle, sheep, or horses. During the dormant period, the forage for livestock use needs to be supplemented with protein because the quality does not meet minimum livestock requirements.

Hydrology Functions

Salinity/alkalinity is the principal factor limiting forage production on this site. This site is dominated by soils in hydrologic group C and D. Infiltration ranges from moderately slow to moderately well. Runoff potential for this site varies from moderate to high depending on soil hydrologic group and ground cover. In many cases, areas with greater than 75% ground cover have the greatest potential for high infiltration and lower runoff. Areas where ground cover is less than 50% have the greatest potential to have reduced infiltration and higher runoff (refer to Part 630, NRCS National Engineering Handbook for detailed hydrology information).

Rills and gullies should not typically be present. Water flow patterns should be barely distinguishable if at all present. Pedestals are only slightly present in association with bunchgrasses. Litter typically falls in place, and signs of movement are not common. Chemical and physical crusts are sometimes present.

Recreational Uses

This site provides a variety of hunting opportunities as well as providing popular camping areas for recreationists. This site has a wide variety of forbs which bloom throughout spring and summer, providing esthetic values that appeal to visitors.

Wood Products

No appreciable wood products are present on the site.

Other Products

Supporting Information

Associated Sites

Overflow	R043BY230WY
Subirrigated	R043BY274WY
Wetland	R043BY278WY

Similar Sites

R034AY242WY – Saline Subirrigated (SS) 10-14W has lower production.
R034AY238WY – Saline Lowland (SL) 10-14W has lower production and is dominated by greasewood.

Inventory Data References (narrative)

Information presented here has been derived from NRCS clipping data and other inventory data. Field observations from range trained personnel were also used. Those involved in developing this site include: Bill Christensen, Range Management Specialist, NRCS; Karen Clause, Range Management Specialist, NRCS; and Everet Bainter, Range Management Specialist, NRCS. Other sources used as references include: USDA NRCS Water and Climate Center, USDA NRCS National Range and Pasture Handbook, and USDA NRCS Soil Surveys from various counties.

Inventory Data References

Data Source	Number of Records	Sample Period	State	County
SCS-RANGE-417	58	1966-1986	WY	Lincoln & others

State Correlation

Type Locality

Field Offices

Lyman, Cokeville, Afton, Jackson, Pinedale

Relationship to Other Established Classifications

Other References

Site Description Approval

_____ _____
State Range Management Specialist Date